

# Work Order ID 91235

October-03-12 2:44:27 PM

**\*91235\***

Page 1

Item ID: D6101-001

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Saddle Billet

Stop **\*NS2\***

Start Date: 03/10/2012 Start Qty: 60.00

**\*60\***

Cust Item ID:

Required Date: 05/12/2012 Req'd Qty: 60.00

**\*60\***

Customer:

Reference:

Approvals: Process Plan: MLS Date: 12-10-03 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D6101	Rev B
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100		0.00
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**\*100\***

PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: 18082

- a) Description: Alluminum billet
- b) 6.00" x 6.250" x 2.00" thick
- c) Tolerance on length are +0.030"/-0.000" /E+/-0.008"
- d) Grain direction along 6.00" length
- e) Material: 7075-T7351 (QQ-A-250/12)
- f) Material certification required

CL 12/10/08 (60)

110	Receive & Inspect for Damage & Mat'l Certs	0.00
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**\*110\***

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

CL 12/10/15 (60)

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
<b>Root Cause</b>	<b>Date</b>	<b>Step</b>	<b>Qty</b>	<b>Description of work order update or Non-conformance</b>	<b>Initial Chief Eng</b>	<b>Action Description</b>	<b>Sign &amp; Date</b>	<b>Verification</b>	<b>QC Inspector</b>		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY			
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other

# Work Order ID 91235

October-03-12 2:44:27 PM

**\*91235\***

Page 2

Item ID: D6101-001

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Saddle Billet

Start Date: 03/10/2012 Start Qty: 60.00

**\*60\***

Cust Item ID:

Required Date: 05/12/2012 Req'd Qty: 60.00

**\*60\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							
<b>*120*</b>									
QC	Memo	0.00				60	0		DA 14 2-03
Quality Control	Ensure Material certification comply to Dwg D								
130	Identify as per dwg & Stock Location: MAT 40	0.00							
<b>*130*</b>									
Packaging	Memo	0.00				60	0		
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
<b>*140*</b>									
QC	Memo	0.00							
Quality Control									

OK 12/11/16

FK 12/11/16

12/11/19

MF 12-11-16

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
<b>Root Cause</b>	<b>Date</b>	<b>Step</b>	<b>Qty</b>	<b>Description of work order update or Non-conformance</b>	<b>Initial Chief Eng</b>	<b>Action Description</b>	<b>Sign &amp; Date</b>	<b>Verification</b>	<b>QC Inspector</b>		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY				
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

# Picklist Print

October-03-12 2:44:31 PM

Page 1

Work Order ID: 91235

\*91235\*

Parent Item: D6101-001

\*D6101-001\*

Parent Item Name: Saddle Billet

Start Date: 03/10/2012

Required Date: 05/12/2012

Start Qty: 60.00

Required Qty: 60.00

Comments: IPP B: 01.05.04New IssueC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-001P		Purchased	No			110	Each	0.0000	1	60			

\*D6101-001P\*

7075-T7351 2X6X6.25

\*\*

*12/14/10*  
*(60)*

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

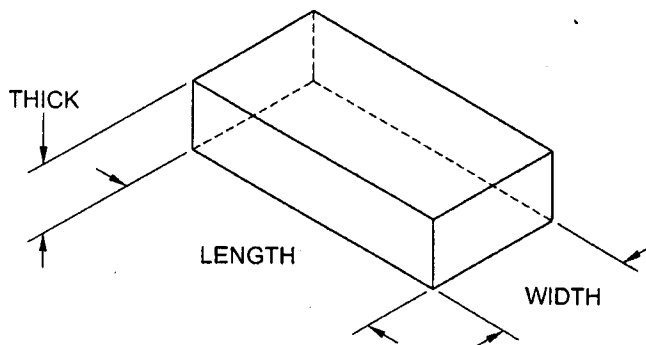
DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
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FAULT CATEGORY											
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		

# SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

**B** ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

**RELEASED**  
09/07/15/W

SHOP COPY  
 RETURN TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. 91235 ML5  
 12-10-03

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO. D6101	
MFG. APPR.	<i>[Signature]</i>	REV. B	
APPROVED	<i>[Signature]</i>	SHEET 1 OF 1	
DE APPR.	<i>[Signature]</i>	TITLE SADDLE BILLET, 7075	
DATE	09.04.23	SCALE NTS	
COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>						
<b>Root Cause</b>	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector			
Doc/Data <input type="checkbox"/>												
Equip/Tooling <input type="checkbox"/>												
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Supplier <input type="checkbox"/>												
Training <input type="checkbox"/>												
Unapproved <input type="checkbox"/>												
<b>FAULT CATEGORY</b>												
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <hr/> <hr/> <hr/>		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other  <hr/> <hr/> <hr/>	



**Castle Metals®**

A. M. Castle &amp; Co.

**BORDEREAU DE MARCHANDISES**

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:1539487

<b>Expédié de / Ship From:</b>		<b>Vendu à / Sold To:</b>		<b>Expédié à / Ship To:</b>		<b>Livré à / Deliver To:</b>	
A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date d'expédition / Date Shipped</b>	<b>F.O.B.</b>	<b>Modalités de transport / Freight Terms</b>		<b>Transporteur / Carrier</b>		<b>No du Bon de connaissance / BOL No</b>	
13-NOV-2012	ORIGIN	Prepaid		MANITOULIN		1539487-2	

<b>Détails d'expédition / Shipment Details</b>	<b>Destination finale / Final Destination Branch - MON</b>
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N° de commande / Order No		N° de ligne Line No	N° d'article / Item No		Description		
2474719		1	752237.MO		2.0000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT RECTANGLE TO 6.25 IN ( ) X 6 IN ( ) SPECIFICATIONS: SHIP NOVEMBER 28TH ONLY - NOT BEFORE QQ-A-250/12		
N° de bon de commande / Purchase Order No		Nbre de pièces / Part Number			Qté commandée / Ordered Qty		Qté Facturée / Invoice Qty
18082		YOUR ITEM NUMBER: D6101-001			60.00 PCS		60.00 PCS
Détails / Details		SHIP NOVEMBER 28TH ONLY - NOT BEFORE QQ-A-250/12					
N° de livraison / Delivery No :	Usine / Mill	No de coulée / Heat Number	Code méc / Mech Id	Pièce s / PCS	Largeur (Pouce)/ Width (IN)	Longueur (Pouce)/ Length (IN)	Qté expédiée/ Shipped Qty(LBS)
118146014	MATERIALS TECHNOLOG Y SOLUTIONS	447482		40			309.6638
118146014	MATERIALS TECHNOLOG	447482		7			54.1912

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.  
Date Printed: 13-NOV-2012 11:00:03 AM

**Castle Metals®****BORDEREAU DE MARCHANDISES**

A. M. Castle &amp; Co.

Page 2 of 2

	Y SOLUTIONS						
118146014	MATERIALS TECHNOLOG Y SOLUTIONS	447482		1			7.7416
118146014	MATERIALS TECHNOLOG Y SOLUTIONS	447482		12			92.8992
<p>Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite. These commodities/technologies are subject to US Export Administration &amp; US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.</p> <p>Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle &amp; Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit. We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle &amp; Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.</p>							
Ce matériel a été reçu et inspecté par Reviewed by Authorized Castle Metals Representative:			Date:		Name:		

Item 752237.Bo

Po 16962

4 pages

Aleris Aluminum Koblenz GmbH  
Carl-Spaeter Str.10 56070 Koblenz/Deutschland



**Aleris**  
Europe

=====

INSPECTION CERTIFICATE (EN 10204/3.1) / TEST REPORT / APPROVED CERTIFICATE

=====

NO.: 0170878

SERIAL-NO.:

PAGE: 1 / 4

ORDER NO. PURCHASER:

030736 ITEM 02

PART NO. PURCHASER:

P752273510TF-161.25-6

ORDER NO. MANUFACTURER/ITEM: 64371 / 02

PRODUCT:

PLATE

SPECIFICATION:

AMS-ASTM-AMS-QQ-A-MMS159

ALLOY/TEMPER:

7075 T7351

DIMENSION:

2.000 x 64.50 x 161.25 INS

PCS.	GROSS LBS	NET LBS	PACK-NO	LOT-NO	PACK-DAT.
2	4.665	4.242	733397	447482	21.12.11
1	2.471	2.123	733398	447482	21.12.11

WTTQ-QS-07/08

14  
DAS  
ok 12/11/12

**Castle Metals Mon**

HEAT NUMBER 447482

MECHANICAL ID                     

ITEM CODE 752237.Bo

LOT NUMBER 2768284MON-85-86-87

PO NUMBER 16962

RECEIPT DATE 10-23-12

SUPPLIER MTS

SPECIFICATION AMS-QQ-A-250/12

LCS                     

COMMENT                     

APPROVED



INSPECTION CERTIFICATE (EN 10204/3.1) / TEST REPORT / APPROVED CERTIFICATE

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RESULTS:

Mechanical properties:

Pl. No.	Spec. No.	Y.S.	U.T.S.	El.
		KSI	KSI	%
Min. LF:		57.0	69.0	6.0
MAX. LF:		68.0		
1 A		61.5	72.7	11.9
1 B		61.5	72.7	11.7

Chemical composition: in % , remainder Al

CERT NO.: 4-11-3554

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	B
0.059	0.107	1.752	0.011	2.457	0.193	5.660	0.0356	0.0013
Zr	Pb	Ni	Sn	Be	Na	Ed	V	H2 (*)
0.0091	0.0029	0.0066	0.0025	0.0002	0.0000	0.0000	0.0020	0.07
Al	Ti	Ti+Zr	Cu/Mg	Fe/Si				
		0.043		2.1				

(\*) = H2 in ml/100 g Al

Other tests:

Dimensional check:	OK	
Surface control:	OK	
Ultrasonic test:	OK	US-spec.: ASTM+BSS+GS+AM+PS+GA+MIL

Normative references:

LEGIERUNGSNORM/CHEMICAL COMPOSITION STANDARD/COMPOSITION CHIMIQUE

AMS 4078G+AMS-QQ-A-250/12 APR 2007+ASTM B 209 - 07+

MMS 159N

FESTIGKEITSNORM/MECH. PROP. STANDARD/CARACTERISTIQUE MECANIQUE

AMS 4078G+AMS-QQ-A-250/12 APR 2007+ASTM B 209 - 07+

MMS 159N

BESTELLNORM/SPECIFICATION/NORME

AMS 4078G+AMS-QQ-A-250/12 APR 2007+ASTM B 209 - 07+

MMS 159N

ULTRASCHALLNORM/ULTRASONIC STANDARD/ULTRASONS - NORME

ASTM B594+BSS 7055A+GSS 16100+AMS-STD-2154 TYPE 1+

PS 21211+GAMPS 9101+MIL-STD-2154 TYPE 1 Cl.A

Aleris Aluminum Koblenz GmbH  
Carl-Spaeter Str.10 56070 Koblenz/Deutschland



Aleris  
Europe

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Electrical conductivity:

Min.: 40.3 Max.: 41.0 %IACS

Result: OK

Heat treatment:

105 DEGREES C.-7H / 170 DEGREES C.-13H.

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**Aleris**  
Europe

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REMARKS:

CERTIFIED THAT THE WHOLE OF THE SUPPLIES DETAILED HEREON HAVE BEEN MANUFACTURED, INSPECTED, TESTED AND UNLESS OTHERWISE STATED CONFORM IN ALL RESPECTS TO THE RELEVANT SPECIFICATIONS, DRAWINGS AND CONTRACT/ORDER. WE CONFIRM THAT QUALITY MANAGEMENT SYSTEM OF ALERIS ALUMINUM KOBLENZ GMBH IS IN ACCORDANCE WITH DIN EN ISO 9001 AND EN 9100 IN THE RELEVANT VALID VERSION AND CERTIFIED BY AN ACCREDITED 3RD PARTY.

MADE IN THE FEDERAL REPUBLIC OF GERMANY

ENCLOSURES:

WT010105 07/08

Koblenz, the 09.01.12 IK

*P. Gardiner*  
Patric Gardiner  
Quality assurance

Aleris Aluminum  
Koblenz GmbH

